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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/998,186	12/03/2001	Hyun Kyun Kim	2060-3541	4452
35884 7590 07/20/2007 LEE, HONG, DEGERMAN, KANG & SCHMADEKA 660 S. FIGUEROA STREET Suite 2300 LOS ANGELES, CA 90017				
			EXAMINER PHAM, TUAN	
			ART UNIT 2618	PAPER NUMBER
			MAIL DATE 07/20/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/998,186

Applicant(s)

KIM, HYUN KYUN

Examiner

TUAN A. PHAM

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-26, and 30-33 is/are allowed.
- 6) ☒ Claim(s) 27-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 05/25/2007 has been entered.

2. On 07/10/2007, Examiner has made a call to attorney of record, Lew Edward Macapagal to proposal amendment to allow. However, there is no response has been received.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young et al. (U.S. Patent No.: 5,995,820, hereinafter, "Young") in view of Koizumi et al. (US Patent No.: 5,745,583, hereinafter, "Koizumi").**

Regarding claim 27, Young teaches a mobile terminal for use in a wireless communication, comprising (see figure 3):

- a microphone to receive speech signals (see figure 3, MIC 70);
- a speaker to provide audio signals (see figure 3, SPK 62);
- an antenna to receive/transmit signals (see figure 3, antenna 50);
- a codec configured to decode a coded signal to a decoded signal (see figure 3, CODEC 58);

- an equalizer unit configured to adjust the decoded signal to provide equalized signal to the speaker (see figure 3, A/D 54, equalizer 55, SPK 62); and

- the processor further adapted to provide a second control signal to the codec, and the processor to supply a digital speech signal received from another mobile communication terminal to the codec (see figure 3, processor 59, CODEC 58, col.3, ln.1-20).

It should be noticed that Young fails to teach an input device to receive user interface to control equalizer frequency of the audio signals output to the speaker; an equalizer unit configured to adjust the decoded signal to provide equalized signal to the speaker; and a processor adapted to supply a first control signal corresponding to a frequency band set by a user to the equalizer unit, the equalizer unit being controlled in response to the first control signal. However, Koizumi teaches an input device to receive user interface to control equalizer frequency of the audio signals output to the speaker (see figure 1, mode selection key 16, equalizer 6, speaker 20, col.2, ln.66-67, col.3, ln.1-3); and a processor adapted to supply a first control signal corresponding to a

frequency band set by a user to the equalizer unit, the equalizer unit being controlled in response to the first control signal (see figure 1, microcomputer is supply the control signal to equalizer 6 corresponding to the user selection mode, col.3, ln.1-18).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Koizumi into view of Young in order to automatically adjust the sound volume to a constant optimum level as suggested by Koizumi at col.2, ln.10-14.

Regarding claim 29, Young further teaches the codec comprises a coder and decoder (see figure 3, D/A 61, A/D 71).

5. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Young et al. (U.S. Patent No.: 5,995,820, hereinafter, "Young") in view of Koizumi et al. (US Patent No.: 5,745,583, hereinafter, "Koizumi") as applied to claim 27 above, and further in view of Dobbs et al. (U.S. Patent No.:5,566,237, hereinafter, "Dobbs").

Regarding claim 28, Young and Koizumi, in combination, fails to teach the equalizing device comprises a plurality of active filters. However, Dobbs teaches such features (see col. 10, ln.49-51).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Dobbs, into view of Young and Koizumi in order to filter out the unwanted signals.

Allowable Subject Matter

6. Claims 21-26, and 30-33 are allowed.

Regarding claim 21, the prior art fails to disclose or render obvious an equalizer control circuit adapted to supply a timbre control signal; and a processor adapted to supply a first control signal corresponding to a frequency band set by a user to the equalizer control circuit, the equalizer control circuit to supply the timbre control signal to the equalizer device based on the first control signal, the processor further adapted to provide a second control signal to the converting device, and the processor to supply a digital speech signal received from another mobile communication terminal to the converting device, in combination with other limitations, as specified in the independent claim 21, and further limitations of their respective dependent claims 22-26, and 30-31.

Regarding claim 32, the prior art fails to disclose or render obvious an equalizer control circuit adapted to supply a timbre control signal; and a CPU adapted to supply a first control signal corresponding to a frequency band set by a user to the equalizer control circuit, the equalizer control circuit to supply the timbre control signal to the equalizer device based on the first control signal, the CPU further adapted to provide a second control signal to the codec, and the CPU to supply a digital speech signal received from another mobile communication terminal to the codec, as specified in the independent claim 32.

Regarding claim 33, the prior art fails to disclose or render obvious a CPU adapted to generate a first control signal according to a frequency band set by a user and to provide a second control signal to the codec; an equalizer control circuit adapted to generate a timbre control signal according to the first control signal of the CPU; and an equalizer adapted to adjust a signal to receive from the equalizer control circuit to provide equalized signal to the speaker, the equalizer being connected to the microphone, the speaker and the codec in such a fashion that the equalizer is disposed between the microphone/speaker and the codec, as specified in the independent claim 33.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan A. Pham whose telephone number is (571) 272-8097. The examiner can normally be reached on Monday through Friday, 8:30 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Anderson can be reached on (571) 272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only.

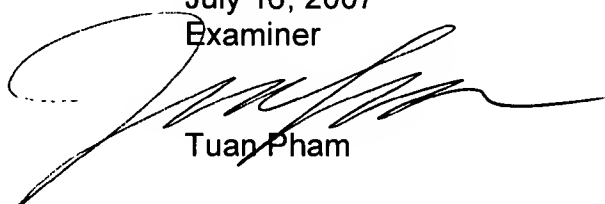
For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have question on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Technology 2600

Art Unit 2618

July 16, 2007

Examiner

A handwritten signature in black ink, appearing to read 'Tuan Pham', is written over the printed name.

Tuan Pham